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ABSTRACT

In light of the gap in the existing literature regarding the effects of participation in various educational activities on occupational performance, the major concern of the study was to determine how the factors of formal educational attainment, work experience, and nonformal educational participation, as mediated by the social psychological variable of individual modernity and the behavioral variable of business practice adoption, contribute to occupational achievement. In the model design, the primary dependent variable was occupational achievement; the intervening variables were business practice adoption and individual modernity; the adult learning attributes were nonformal educational participation and work experience; and the pre-employment condition was formal educational attainment. The study was conducted by means of structured interviews of Mexican American businessmen in the three most populous Mexican American enclaves in Chicago. Although the standardized beta coefficients and the coefficients of determination for the hypothesized paths of influence among the variables revealed a marked lack of predictiveness of many aspects of the model, the study was able to provide evidence of the significance of nonformal educational participation to business practice adoption and, via that mediating variable, to occupational achievement. (Author/JR)

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A STUDY OF THE EDUCATIONAL AND OCCUPATIONAL DETERMINANTS OF OCCUPATIONAL ACHIEVEMENT OF MEXICAN AMERICAN SMALL BUSINESSMEN IN CHICAGO

A paper prepared for the

Adult Education Research Conference

Toronto, Ontario

by

Peter S. Cookson

The University of Chicago

April 9, 1976

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Statement of the Problem

Participation in adult education activities has long been a concern of adult education practitioners and researchers. In recent years, much research has been conducted to assess the relationship between occupational and socioeconomic attributes and adult education participation. In general, this research literature has in common (1) a strong identification with adult education activities that are planned and organized by institutions rather than learners; (2) a tendency to ignore on-the-job learning, and (3) a tendency to emphasize the unidirectionality of the relationship between occupational status and adult education participation, i.e., an apparent unconcern for the influence of adult learning attributes on subsequent occupational functioning. In contrast to the bulk of previous research on adult education participation, this study addresses the effect that both participation in broadly defined adult education activities and learning experiences gained in the course of employment have on subsequent occupational performance. Specifically, the central problem addressed by this study can be summed up by the following questions: (1) How does participation by adults in broadly defined educational activities affect their subsequent occupational achievement? (2) How do work experiences affect their performance of subsequent job related behaviors?

In the first section of this paper, the pertinent research will be reviewed in connection with the two questions specified in the preceding paragraph. In the second section the particular propositions guiding the present study and the methodology utilized will then be described. The results of the analysis will be reported in the third section. The final sections report the study's conclusions, suggestions for further study, and policy implications.

Review of the Pertinent Literature

In two nationwide studies of adult education 1/, researchers noted that different participation rates and motivations for such participation reflected differences in socioeconomic status. In a Berkeley, California study of adult males 2/, London observed an under-representation of lower class men in institutionally-sponsored adult education activities due to less awareness of their existence or location and less ability to afford expenses of participation than middle class men. When the definition of adult education activities was extended to include "information-seeking behaviors," Rees and Paisley 3/ discovered that occupation comprised one of the most powerful predictors of participation in most kinds of activity. When Tough 4/ looked beyond institutionally-sponsored adult education programs to investigate

"self-planned learning" as well as participation in activities planned by others, he discovered that many more adults were actively learning than had been supposed heretofore. Generally consistent with findings reported by others, his comparative data yielded differences in the frequency and nature of "learning projects" according to occupational status differences. Notwithstanding the importance of these studies in documenting the influence of selected occupational characteristics or behaviors on participation in adult education activities, they offer little to our understanding of the possible effects that adult education participation might have on subsequent occupational performance. The limit of these researchers' interest in occupational characteristics is confined to their predictiveness of distinctive participation rates or learning patterns rather than as variables dependent upon the independent effects of learning.

A review of the pertinent literature yielded only two studies conducted to assess the relationship between adult learning attributes and subsequent occupational performance. Devising a scale of job related learning activities analogous to the Litchfield Leisure Time Activities Scale 5/, Copeland 6/ used it to predict the organizational effectiveness of extension agents. Those who were more active learners tended to be viewed either by themselves or supervisors as being successful in their work. Focusing on a specific aspect of occupational behavior -- movement from one occupational position to another -- Devlin 7/ compared occupational mobility patterns exhibited by participants of a suburban community college continuing education program during the previous decade with those of an equivalent group of "non-participants." On the basis of such a comparison, he was able to demonstrate that, regardless of the initial occupational status, those who had enrolled in continuing education courses experienced rates of occupational mobility which exceeded those of the non-participants. With the exception of these two studies, the manifold effects of participation in various educational activities on occupational performance remains a largely unexplored area of research.

The second problem of central concern to this present study was described by the question about the influence of work experience on subsequent job performance. The question could be paraphrased to read: Can on-the-job training or experience influence job-related behaviors in ways similar to adult education participation? Perhaps the proposition implied by this question may be best stated in the words of Harbison and Myers who wrote:

> The accumulation of human capital may start with formal education, but it does not end there. It is a continuous, lifetime process, and the knowledge and skills acquired during employment are often as valuable as those acquired in school. 8/

Suggesting general agreement with the above statement, London has written, "There is substantial evidence that most managerial, technical and craft skills are developed on the job more effectively than in formal educational institutions." 9/ Unfortunately London never identified any of the "substantial evidence." Support for this position, nevertheless, has been suggested by researchers of on-the-job learning experiences of small businessmen and industrial machinists.

In a study of sole proprietors of 78 infant small businesses during the first two years, Mayer and Goldstein 10/ conceptualized occupational experience in terms of two distinct dimensions: (1) occupational, defined as simply experience obtained in the same or similar line as the business begun by the respondent, and (2) management, defined as experience as an administrator of a business. The authors further explained

> . . . that work experience as an employee does not provide the knowhow needed to operate a business as proven by the fact that most of the owners in the sample who relied exclusively on skills acquired by prior employment failed. By contrast, those with previous work experience who survived also had managerial skills, often, but not always, acquired through previous business ownership . . . Prior experience as a business owner and particular experience as an owner in the same line of business was directly related to survival and success. . . 11/

The importance of occupational experience to the performance of behaviors facilitating survival of the business was also noted by Marris and Somerset in their study of Nigerian businessmen. 12/ They observed that if the business was to survive, specialized business skills must be learned. The individuals in their study seldom acquired their skills through the formal education structures. More frequently they gained their skills in the course of working on the job -- especially management experience -- either prior to or following initiation of the enterprise currently being managed.

With a focus different from these studies of businessmen, Lukomski 13/, utilizing a sample of 1,080 machinists in the industrial center of Sao Paulo, Brazil, examined the relation between work experience vis-à-vis formal education and training as sources of learning and as possible determinants of the "present work situation." Work experience, as well as formal academic education, was found to be associated with more rapid attainment of occupational skill. Persons with either higher levels of formal educational attainment or higher levels of relevant job experience reported shorter time periods between job entry and job mastery as industrial machinists. In determining the relative impact of different learning activities, i.e., formal education, training, and work experience on wages per hour, only work experience was demonstrated to be significant. The significance of the Lukomski study lies in its documentation of the contribution of previous work experience to current occupational functioning. While the restriction of the scope of off-the-job learning to institutionally-sponsored courses and programs appears appropriate with reference to the highly specific technical skills of machinists, the extent to which these findings may be generalized to other occupations is nevertheless limited.

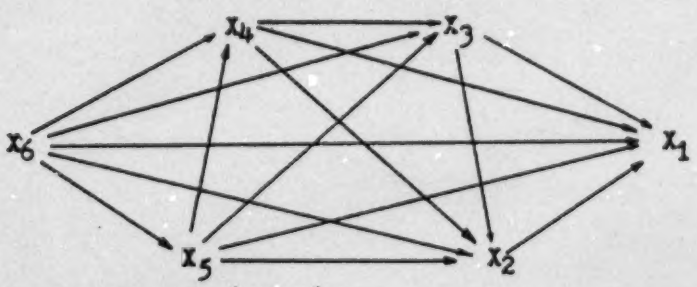
Other researchers have shown that not only the conditions of what Lukomski refers to as the "present work situation" change as a result of certain kinds of work experience, but the social psychological orientations are also subject to change. On the basis of 6,000 interviews in six developing countries, Inkeles and Smith 14/ reported that

the higher the number of years of factory employment, the greater likelihood that a man would display more modern attitudes, values, and modes of action. It is reasonable to expect, therefore, that the same association between the constellation of beliefs, values and behaviors identified with modernity and other kinds of experience may be demonstrable with further inquiry. That individual modernity may also be considered a variable intervening between past work experience and subsequent occupational behavior is suggested by the observation by Inkeles and Smith that factory workers who rated highest in individual modernity were most likely to leave the factory in order to start small business firms of their own. 15/ Whether othe kinds of work experience -- outside of factories -- affects individual modernity and then, via modernity, affects other aspects of the present work situation remains a research problem yet to be explored.

Propositions and Methods

With these considerations in mind about the effects of nonformal educational participation and past work experience on present occupational functioning, the data available for the present study and the propositions allowed by these data will now be presented. Specifically, the major concern of the study, as described above, is to determine how the factors of formal educational attainment, work experience, and nonformal educational participation, as mediated by the social psychological variable of individual modernity and the behavioral variable of business practice adoption, contribute to one aspect of the present work situation subsumed by the term occupational achievement. These variables and the proposed pattern of relationships between them are depicted in the "path diagram" of the model in Figure 1. By using conventional techniques of path analysis 16/, the interdependence between both antecedent and subsequent variables, as well as their direct and indirect influences upon occupational achievement, will be examined.

Figure 1. The Model of Occupational Achievement of Mexican American Businessmen



X_1 = Occupational Achievement (OCACH)
X_2 = Business Practice Adoption (BUSPRAC)
X_3 = Individual Modernity (INDIVMOD)
X_4 = Nonformal Educational Participation (NONFORMAL)
X_5 = Work Experience (WORKEX)
X_6 = Formal Educational Attainment (FORMALED)

At this point, however, the rationale for application of the study to Mexican American small businessmen should be given. To maximize the predicted influence of both work experience and nonformal educational participation on occupational achievement, it was decided to collect data from an occupational category in which occupational achievement rested on the individual's abilities rather than mere possession of certain formal educational schooling credentials. Thus, to allow for optimum expression of the effects of both work experience and nonformal educational participation, vis-à-vis formal educational attainment on occupational achievement, the researcher selected the occupational group of small businessmen. Further delimitation of the study group to Mexican American small businessmen in Chicago was made on the basis of both theoretical and other considerations. Because of the theoretical implications of the possible application of findings regarding the independent influence of work experience and nonformal educational participation on occupational achievement of adults with low formal educational attainment, the close proximity of the largest urban concentration of Mexican Americans in any U.S. city outside of California and Texas, and their own generally lower levels of formal educational attainment, the investigator decided to draw the sample from the population of Mexican American small scale business proprietors in three of the four most populous Mexican American enclaves in Chicago. With specific reference to Mexican American small businessmen, then, the variables, in the order of their of their appearance in the model, and their operationalization, are as follows:

The Primary Dependent Variable

Occupational Achievement-The average net earnings respondents recall having reported to the Internal Revenue Service for their business in the years 1972, 1973, and 1974. Although this measure is subject to error due to either real or feigned loss of recall, a check of the test-retest reliability among pilot study respondents demonstrated the tendency to repeat either the same or adjacent income intervals by 84 percent of those re-interviewed.

The Intervening Variables

Business Practice Adoption-The degree to which businessmen incorporate into their administrative behavior certain practices considered by business experts to be associated with efficient business enterprise. The Business Practice Adoption Index was derived by the investigator from a list of 28 specific business practices identified by researchers of small business firms as being related to both survivability and profitability of the business operation. 17/ This index was validated by employees of the Chicago office of the Small Business Administration and a Chicago area university professor of business whose specialization was the conducting of seminars for current small business owners and managers. A check of the reliability coefficient of equivalence yielded a Cronbach Alpha standardized reliability coefficient of .85.

Individual Modernity-The average standard score on the short version (OM-12) of the Overall Modernity Scale (OM-519) devised by Inkeles and Smith 18/ to measure the "set of personal qualities which reliably cohere as a

syndrome and which identify a type of man who may validly be described as fitting a reasonable theoretical conception of the modern man." 19/ The items in this scale represent those that were "found most effective in measuring modernity in six countries." 20/ The Keuder-Richardson reliability of the scale was .62. 21/

Adult Learning Attributes

Nonformal Educational Participation-The sum of the frequencies with which the respondent reports having participated in job-related nonformal educational activities since becoming the owner of his currently owned business. This scale was based on the Copeland Job-Related Learning Activities Scale, with adaptations to apply to the occupational category of Mexican American small scale businessmen. The validity of this scale was checked via a panel of adult educators with experience with Spanish-speaking learners in Chicago. A check of the reliability coefficient of equivalence for the 19 items comprising the Nonformal Educational Participation Index yielded a Keuder-Richardson reliability of .95.

Work Experience-The ratio of time spent in supervisory occupational positions held to total time spent in all occupational positions. An earlier version of this index consisted of supervisory experience, business ownership, and experience in the line of the business currently owned, but was found to exhibit a low correlation with other variables in the model, largely due to the independent effects of each component neutralizing the effects of the others. The two components with the weakest independent effects were dropped from the index and the remaining component, supervisory experience, was selected to constitute work experience.

Pre-Employment Condition

Formal Educational Attainment-The number of school years an individual completes in typically age-graded hierarchical institutions of elementary, secondary, and higher education.

The variable of formal educational attainment measures one of the more important preconditions for employment. Mediating the influence of this variable and individual modernity and business practice adoption are the two adult learning attributes of work experience and nonformal educational participation.

It is expected that formal educational attainment will be positively related to certain kinds of experience in employment. Because of the demonstrated association between number of years of schooling completed and subsequent occupational status attainment, respondents with higher levels of formal educational attainment, more than respondents with lower formal educational attainment will have a greater likelihood of occupying supervisory positions in employment.

Support for the proposition that formal educational attainment is positively associated with nonformal educational participation has been provided by numerous researchers of adult education participation studies. 22/

Briefly, the rationale for this proposed relationship is that literacy and computational skills acquired by schooling experiences early in life facilitate a greater awareness and a more positive valuation of a wide range of learning opportunities in adulthood -- from informal conversations with more experienced businessmen and business magazine reading to course-taking.

Work experience, in turn, is expected to exert a positive influence upon nonformal educational participation. Job responsibilities, which include supervision and decision-making, are expected to promote the further development of skills acquired in the course of schooling, fostering the awareness and motivations for involvement with nonformal educational activities.

Formal educational attainment and the adult learning attributes of work experience and nonformal educational participation should affect the social psychological and behavioral functioning of the Mexican American in several ways. With respect to formal educational attainment's influence on individual modernity, Inkeles and Smith observed, "In large-scale complex societies no attribute of the person predicts his attitudes, values, and behavior more consistently or more powerfully than the amount of schooling he has received." 23/ This was found to true particularly of the social psychological syndrome of individual modernity, for which half of the variance could be attributed to education. 24/

Although Inkeles and Smith did not include in their study an investigation of nonformal educational participation, it is likely that this variable will predict individual modernity because the scale utilized in this study to measure individual modernity consists of, in part, of such factors as information-seeking and new experience behaviors. Applying the Inkeles' description of the factory to the business work setting, a high score on the Work Experience Index should also be predictive of high Individual Modernity.

According to the model, both formal educational attainment and work experience should each exert an indirect influence on both individual modernity and business practice adoption via nonformal education and, in the case of business practice adoption, via individual modernity. Because of the added influence of the mediating variables, it is expected that the indirect paths of both formal educational attainment and work experience will exceed their direct paths in their predictiveness.

It follows from the reasoning in the discussion above that formal educational attainment and the adult learning attribute variables should also have a positive direct effect on business practice adoption. Businessmen more active in learning activities related to the conduct of their business are expected to be disproportionately represented among the more innovative business practice adopters. Respondents who report greater frequency of supervisory work experience prior to their current business ownership are posited to have gained awareness, motivations, and modes of activity favorable to adoption of business practices. It is likely that formal educational attainment will be exceeded in the variance it can explain in business practice adoption by the more tem-

porally immediate adult learning variables of work experience and nonformal educational participation.

Occupational achievement of Mexican American businessmen should be correlated with not only the immediate independent variables of individual modernity and business practice adoption, but also with the adult learning attributes of work experience and nonformal educational participation and, to a lesser extent, with formal educational attainment. Businessmen with higher scores on each of these antecedent variables, more than those with lower scores, will be better schooled, more familiar with supervisory work roles, better informed, and more efficient in the management of their enterprise. These measures may be characterized as "inputs" which, when combined, produce an"output" condition favorable to higher levels of net business income, the measure in this study equivalent to occupational achievement.

The research reported here was conducted in the three most populous Mexican American population enclaves in Chicago. All three areas have in common an increasing Mexican American population attracted by the low rents of mainly substandard and deteriorating housing, a shrinking minority of eastern or southern European immigrants who formerly had settled in the area, close proximity to railroad lines and industrial plants, and the threat of encroachment from at least one or more sides by a growing Black population. 25/

Data for the study were collected via a structured interview form designed to obtain measures of (1) personal and family background, (2) occupational history, (3) formal educational history, (4) participation in nonformal educational activities, (5) individual modernity, (6) extent of adoption of business practices and (7) business financial data. In recognition of the need during the first contact to increase the legitimacy of the investigator as well as to reduce the possible dissonance caused by the prospect of being interviewed by a gringo, the investigator showed each respondent a letter of introduction which was signed by the editor of the largest Spanish language newspaper in the Midwest. Interviews, conducted mostly in Spanish by the investigator, usually lasted between one-and-one-half and two hours each.

In dealing with the model, two of the variables form interval scales consistent with Labovits's assumptions. 26/ Accordingly, conventional regression analysis will be the primary statistical method. Rather than merely determining the multivariate findings to "maximize aggregate power," 27/ the main purpose of the path analysis is to assess the worth of the model which links pre-employment condition, adult learning attributes, social psychological and behavioral mediating variables and occupational achievement. A modified Simon-Blalock strategy allowed the investigator to assess the accuracy of the model by breaking-down (decomposing) the zero-order relationships between the variables into their direct and indirect causal effects and into their noncausal effects (joint associations). 28/

Results

Table 1 presents the zero-order correlation matrix for all variables in the study. Although not able to discriminate independent effects of single variables, the zero-order correlations demonstrate some interesting associations. Of the fifteen associations in the table, the only two which failed to reach the .05 level of statistical significance were between work experience and each of the variables, formal educational attainment and nonformal educational participation. The strongest association was noted for business practice adoption and occupational achievement. Nonformal educational participation showed a strong association with formal educational attainment, individual modernity, and business practice adoption. Moderate correlations were obtained for the association between nonformal educational participation and occupational achievement and work experience.

Table 1. Correlation Matrix, Means, and Standard Deviations of Variables in the Model

		X_1	X_2	X_3	X_4	X_5	X_6
X_1	OCACH	....					
X_2	BUSPRAC	.630	....				
X_3	INDIVMOD	.363	.489	....			
X_4	NONFORMAL	.351	.692	.517	....		
X_5	WORKEX	.299	.358	.240	.368	....	
X_6	FORMALED	.265	.373	.501	.588	.242	....
Mean		3.367	-.039	.094	39.717	.554	8.500
Std. Dev.		2.058	.405	.460	15.837	.417	3.730

N=60

Table 2 provides the regression estimates (in standard form) of the effect parameters that show dependencies between the pre-employment condition of formal educational attainment and the learning activities of work experience and nonformal educational participation.

Table 2 shows that while formal educational attainment of Mexican American businessmen in the sample positively and directly influences the extent of their nonformal educational participation, it appears not to have a significant direct effect on work experience. Persons who attended

more years of school tended to exhibit greater proclivity to continue learning activities perceived to be related to their work as small business proprietors. Although a tendency appears in the data suggesting that formal educational attainment also contributes positively to certain kinds of work experience instrumental to subsequent business management, the relationship approached but did not reach statistical significance. A similar phenomenon of the relationship approaching without reaching statistical significance was observed for work experience and nonformal educational participation. The failure of occupational experience gained prior to current business ownership to either respond to formal educational attainment or to influence nonformal educational participation may be due either to a real lack of a causal relationship between these variables or to flaws of measurement.

Table 2. Standardized Partial Regression Coefficients from Regression of Pre-employment Condition and Learning Attributes on Work Experience and Nonformal Education Participation

Independent Variables	Dependent Variables	
	WORKEX	NONFORMAL
FORMALED	.242	.530
WORKEX	....	.240
Coefficient of Determination	.058	.400

For the next stage of the analysis, individual modernity and business practice adoption were regressed on formal educational attainment, work experience and nonformal educational participation. Table 3 presents the standardized partial regression coefficients which indicate the relative effects of all antecedent variables proposed to have a direct effect on individual modernity and business practice adoption.

The most powerful effects on both individual modernity and business practice adoption, as demonstrated in Table 3, originated with nonformal educational participation. More active learning behaviors tend to contribute to knowledge, opinions, and action modes identified with the characteristic of individual modernity. The more active participants of nonformal education also tended to utilize a greater number of specific business procedures generally associated with effective business management.

As anticipated, Table 3 shows that higher formal educational attainment exerted a positive and statistically significant impact on individual modernity. Contrary to what was anticipated, however, formal educational attainment revealed a slight inverse direct effect on business practice adoption. A possible explanation for this finding may be that for some less formally educated businessmen, over-adoption provided a means whereby they could compensate for their lack of schooling.

Table 3. Standardized Partial Regression Coefficients from Regression of Pre-Employment Condition and Learning Attribute Variables on the Social Psychological and Behavioral intervening Variables in the Model.

Independent Variables	Dependent Variables	
	Individual Modernity	Business Practice Adoption
FORMALED	.300	-.118
WORKEX	.048	.111
NONFORMAL	.323	.616
INDIVMOD	....	.203
Coefficient of Determination	.329	.522

Although work experience showed a slight tendency to positively influence individual modernity, the relation was not statisticaly significant. Work experience evidenced no influence on business practice adoption. Respondents with higher levels of occupational experience in supervisory roles demonstrated no more modernity than individuals with less work experience.

Now that the effect parameters have been computed for the variables antecedent in the model to the main dependent variable, occupational achievement, the following question may be addressed: What are the effects of each independent variable -- pre-employment condition, learning attributes, and the social psychological and behavioral intervening variables -- on levels of occupational achievement? First, the relative effects of all variables proposed to have a direct influence on achievement will be studied. Table 4 presents the standardized partial regression coefficients for the equation:

$$X_1 = p_{12}X_2 + p_{13}X_3 + p_{14}X_4 + p_{15}X_5 + p_{16}X_6 + p_{1r}X_r$$

where X_1 is mean net income reported for the years 1972, 1973, and 1974, X_2 is business practice adoption, X_3 is individual modernity, X_4 is nonformal educational participation, X_5 is work experience, X_6 is formal educational attainment, and X_r is the residual term.

With one exception, the regression coefficients listed in Table 4 failed to support the predictions of the researcher. Only the intervening behavioral variable of business practice adoption demonstrated a statiscally significant influence on occupational achievement. In fact, the relationship has the highest level of significance of any in the study. Although it reached a level of minimal statistical significance, the direction of occupational achievement's response to the direct influence of nonformal educational participation was not anticipated; the negative regression coefficient ($\beta = -.27$) seems to indicate that more active participation in

learning activities related to business matters leads to lower occupational achievement when measured in terms of net income. This finding appears inconsistent with the earlier finding that nonformal educational participation was significantly related to business practice adoption which, in turn, produced higher occupational achievement. The possibility that this inconsistent finding presages a very high indirect effect on achievement will be further explored at the second stage of the anlysis.

Table 4. Standardized Partial Regression Coefficients for Variables Expected to Affect Occupational Achievement Directly

Independent Variables	Occupational Achievement
BUSPRAC	.707
INDIVMOD	.088
NONFORMAL	-.279
WORKEX	.104
FORMALED	.096
Coefficient of Determination	.660

Now that the direct paths have been examined for all possible direct causal effects between all pairs of variables in the model, what of the indirect paths? Do the variables exert influence via indirect paths at a statistically significant level as posited by the model? As a final step in the analysis the task remains to decompose the pertinent correlations into direct and indirect causal effects and noncausal joint associations (noncausal effects). Utilization of the full model will allow assessment of all causal paths, facilitating a more complete understanding of the ways in which the independent variables affect not only the main dependent variable of occupational achievement but also each other.

In Table 5, the correlation between each independent variable and the respondent's level of occupational achievement is equal to the sum of both causal effects (sub-divided into both direct and indirect effects) and joint associations. Indirect effects are equivalent to "the product of the regression coefficients along each causal transverse tracing forward only."29/ Spurious or error effects are subsumed under the heading of joint associations.

Table 5 presents the direct and indirect effects and joint association computed in terms of the full model. This table reveals the strong indirect influence of nonformal educational participation on occupational achievement. While attention only to the direct effects would lead to the conclusion that there was a negative causal relationship between nonformal educational

participation and occupational achievement, examination of the indirect effects leads one to the opposite conclusion. The indirect effects of nonformal educational participation were themselves analyzed and the single most important source of variance among the indirect paths was the intervening behavioral variable of business practice adoption. In other words, by influencing business practice adoption, nonformal educational participation exhibited a strong influence on occupational achievement.

Table 5. Decomposition of Zero-Order Correlations between Independent Variables and Occupational Achievement Levels

Independent Variables	Occupational Achievement			
	Total Effect	Direct Effect	Indirect Effect	Joint Assoc.
BUSPRAC	.630	.707	none	-.077
INDIVMOD	.363	.088	.144	.131
NONFORMAL	.351	-.279	.510	.120
WORKEX	.299	.104	.134	.061
FORMALED	.265	.096	-.062	.231

The other independent variables, however, had virtually no net effect upon occupational achievement levels. Through the other intervening variable of business practice adoption, individual modernity expressed a negligible indirect effect on occupational achievement. Note that the negligible negative indirect effect of formal educational attainment on occupational achievement neutralized most of the direct effect, making for a large joint association.

In the next talbe, the correlations between the first three interveining variables and their antecedent variables are decomposed. Of the five indirect effects examined in Table 6, only the indirect effects of formal educational attainment on business practice adoption reached statistical significance. To determine the source of most of the indirect influence, the indirect path was decomposed. Analysis of this indirect effect permitted indentification of the source of most of the effect as nonformal educational participation. This finding suggests one important role of nonformal educational participation as a possible link between formal educational attainment and subsequent occupational behavior. Nonformal educational participation may serve as a channel whereby skills learned in childhood may persist and be sharpened through their use in connection with learning in adulthood.

In Table 7, the analysis is advanced to delineate the different kinds of effects expressed among the variables which represent, respectively, the initial pre-employment condition and learning attributes.

Table 6. Decomposition of Zero-Order Correlations between Independent Variables and Intervening Variables, Individual Modernity and Business Practice Adoption

Independent Variables	Individual Modernity				Business Practice Adoption			
	Total Effect	Direct Effect	Indirect Effect	Joint Assoc.	Total Effect	Direct Effect	Indirect Effect	Joint Assoc.
INDIVMOD		....			.489	.203	none	.286
NONFORMAL	.517	.323	none	.194	.692	.616	.066	.010
WORKEX	.240	.048	.078	.114	.358	.111	.164	.083
FORMALED	.501	.300	.031	.056	.373	-.118	.535	-.161

Table 7. Decomposition of Zero-Order Correlations between Learning Attributes, Nonformal Educational Participation and Work Experience, and Their Respective Independent Variables

Independent Variables	Nonformal Educational Participation				Work Experience			
	Total Effect	Direct Effect	Indirect Effect	Joint Assoc.	Total Effect	Direct Effect	Indirect Effect	Joint Assoc.
WORKEX	.368	.240	none	.128				
FORMALED	.588	.530	.058	.000	.242	.242	none	.000

The one indirect effect noted in Table 7, between formal educational attainment and nonformal educationalparticipation, was virtually nonsignificant. Failure of work experience to serve as a significant intervening variable for formal educational attainment's influence on nonformal educational participation may be due to measurement error as much as a real absence of a significant relation with the other variables in the model.

In brief, decomposition of the pertinent zero-order correlations demonstrated that the only indirect paths which reached statistical significance were those observed between formal educational attainemtn and business practice adoption via nonformal educational participation; and between nonformal educational participation and occupational achievement, via business practice adoption. The coefficients of determination show that approximately 66 percent of the variance in occupational achievement was accounted for by the model.

Conclusions

Although the standardized beta coefficients and the coefficients of determination for the hypothesized paths of influence among the variables revealed a marked lack of predictiveness of many aspects of the model, the study was able to provide evidence of the significance of nonformal educational participation to business practice adoption and, via that latter mediating variable, to occupational achievement. In fact, nonformal educational participation proved to be a more influential variable than formal educational attainment in predicting both business practice adoption and occupational achievement. While formal educational attainment demonstrated a significant influence on nonformal educational participation and, via that latter variable, on business practice adoption, neither work experience nor individual modernity affected occupational achievement, either directly or indirectly. Both nonformal educational participation, indirectly, and business practice adoption, directly, manifested significant positive effects on occupational achievement.

Three findings of the study are particularly noteworthy. First, Mexican American small businessmen in Chicago who are more active participants in nonformal educational activities tend also to be among those who implement more up-to-date and effective business practices in the operation of their enterprises. No doubt their participation in such learning activities brings greater awareness of examples and benefits of such practices. Their greater awareness also facilitates the development of role models of more successful businessmen whose behavior they can emulate for the improvement of their own small firms. This finding supports the view that participation in nonformal educational activities in adulthood can positively alter the level of occupational performance.

Second, occupational achievement, which in this study was measured in terms of mean net business income for a three year period, does not appear either directly or indirectly to depend, at least among Mexican Americans in Chicago, on the number of years the proprietors attended formal schooling in childhood. The evidence suggests that formal educational

attainment tends to lose its impact -- at least in the area of occupational achievement -- as other factors associated with adult life grow into prominence. Although this finding was contrary to the expectation implicit in the model, it is not without corroboration in research conducted among other ethnic and occupational groups.

Third, the variable of work experience functioned less according to the expectations implicit in the model than any other variable. It failed to reach statistical significance in its predictiveness of the other four consequent variables. As was mentioned above, the absence of a statistically significant relationship may be either a reflection of flaws in measurement or, perhaps more basically, the inadequacy of the ratio of supervisory employment experience to total employment experience as a measure of work experience. Additional research is needed to specify those aspects of occupational experience which can be shown to contribute to the behavioral disposition to become engaged in nonformal educational activities.

Suggestions for Further Research

Several comments should be made with respect to the study's theoretical significance. In this study two functional roles of nonformal educational participation were identified. First, as a "bridge," nonformal educational participation linked the effects of formal educational attainment with that aspect of occupational behavior called business practice adoption. Knowledge, skills, and attitudes learned in the context of formal schooling during childhood and youth were perpetuated and strengthened by participation in learning activities during adulthood. Second, as a substitute for formal schooling, nonformal educational participation contributed a statistically significant direct and indirect influence on occupational functioning independent of formal educational attainment. It appears that when basic learning skills are mastered in the course of a minimum of formal schooling, participation in nonformal educational activities in adulthood may facilitate additional functional development. In other words, for adults of low formal educational attainment, nonformal educational participation serves as a substitute function by facilitating acquisition of knowledge, skills, and attitudes which might have been acquired in the context of formal schooling. It would be interesting to assess the relation between nonformal educational participation and occupational achievement across a wide range of occupations, including those in which educational credentials constitute major criteria for recruitment and promotion.

The present study represents an addition to a growing body of research of the wide spectrum of learning activities of adults not already identified as respondents by virtue of their affiliation with institutionally-sponsored adult education programs. The Copeland Job-Related Learning Activities Scale, as adapted to the particular circumstances of Mexican American small businessmen served as a suitable instrument in this study for two reasons: (1) it tapped a wide range of learning activities related to business, and (2) its brevity facilitated inclusion of questions related to other research concerns during the same interview. Some consideration had been given to the in-depth interview schedule devised by Tough to analyze "learning project"

of adults, but to have utilized this instrument would have meant an unusually large expenditure of precious interview time and the resulting exclusion from the study of other variables of interest to the investigator. It may be concluded that the Tough instrument is ideal when the sole focus of investigation is adult learning patterns. When the research foci are the relations between participation in nonformal activities and other social, psychological, and behavioral attributes, a shorter and fixed-alternative approach is superior. For collection of data about learning activities related to a particular occupation, the Copeland Job-Related Learning Activities Scale is recommended.

It should be pointed out that perhaps because of the measurement flaws in the variable of work experience, as defined in this study, a real test of the influence of the work setting on either nonformal educational participation or individual modernity was not made. Two basic questions remain: Do certain job activities, by their very nature, contribute to the formation of knowledge, skills, and behavioral dispositions favorable to nonformal educational participation? Do other work settings, besides the factory in developing countries, contribute to the social-psychological attributes generally referred to as individual modernity? Both of these questions need to be addressed by future research.

Possible Policy Implications

Finally, a comment about some of the implications of the study of Mexican American small businessmen for adult education policy. These explanatory remarks must be considered as tentative due to the modesty of the statistically significant coefficients and the lack of support for many of the originally posited relationships in the model. Nevertheless, if the findings reported in this study are sustained by further research, some concrete recommendations for education policies which would facilitate occupational achievement of Mexican American small businessmen appear to be justified.

First, to increase the occupational achievement of Mexican American businessmen, opportunities for them to learn more about their occupation should be promoted. Such opportunities should include, but not be limited to courses, seminars, workshops, informative reading materials, and consultation services -- in both English and Spanish.

Second, participation in nonformal educational activities should not be restricted to those who have attained any particular level of formal schooling. On the contrary, they should be provided so as to stimulate involvement of persons who span the entire range of formal educaticational attainment.

Third, nonformal educational activities should stress methods and benefits of adoption of certain business practices which reflect an efficient business operation, irrespective of the line or scale of the businesses involved. By linking instruction to adoption of essential business practices, the profitability of the learners' firms would be enhanced and powerfully positive inducements to continue learning and making subsequent improvements in the business would continue.

References

1. John W. C. Johnstone and Ramon J. Rivera, Volunteers for Learning (Chicago: Aldine Publishing Company, 1965); and Abraham Carp, Richard Peterson, and Pamela Reelfs, "Adult Learning Interests and Experiences," in Planning Non-Traditional Programs: An Analysis of the Issues for Post-Secondary Education, ed. by K. Patricia Cross, John R. Valley and Associates (San Francisco: Jossey-Bass Publishers, 1974).

2. Jack London, Robert Wenkert, and Warren Hagstrom, Adult Education and Social Class (Berkeley: University of California, Survey Research Center, 1963).

3. Matilda B. Rees and William J. Paisley, "Social and Psychological Predictors of Adult Information Seeking and Media Use," Adult Education Journal, XII, No. 1 (1968), pp. 11-29.

4. Allen Tough, The Adult's Learning Projects: A Fresh Approach to Theory and Practice in Adult Learning (Toronto: Ontario Institute for Studies in Education, 1971).

5. Ann Litchfield, "The Nature and Pattern of Participation in Adult Education Activities" (unpublished Ph.D. dissertation, University of Chicago, 1965).

6. Harlan Gene Copeland, "Organizational Accomodation Types and the Continuing Learning Activity of Adult Educators" (unpublished Ph.D. dissertation, University of Chicago, 1969).

7. Laurence Errol Devlin, "Participation in Adult Education and Occupational Mobility" (unpublished Ph.D. dissertation, University of Chicago, 1970).

8. Frederick Harbison and Charles A. Myers, Education, Manpower and Economic Growth (New York: McGraw-Hill, Inc., 1964), pp. 17-18.

9. Jack London, "The Influence of Social Class Behavior upon Adult Adult Education Participation," Adult Education Journal, XX, No. 3 (1970), pp. 150-151.

10. Kurt B. Mayer and Sidney Goldstein, The First Two Years: Problems of Small Firm Growth and Survival (Washington: U.S. Small Business Administration, 1961).

11. Ibid., p. 138.

12. Peter Marris and Anthony Somerset, African Businessmen: A Study of Entrepreneurship and Development in Kenya (Cambridge, Massachusetts: Harvard University Press, 1974).

13. Michael Lukomski, Alternatives for the Training of Skilled Industrial Labor in Sao Paulo, Brazil, Program of Studies in Non-Formal Education Supplementary Paper No. 1 (East Lansing: Michigan State University, Institute for International Studies in Education, 1975).

14. Alex Inkeles and David H. Smith, Becoming Modern: Individual Change in Six Developing Countries (Cambridge, Massachusetts: Harvard University Press, 1974).

15. Ibid., p. 168.

16. For unusually lucid explanations of the techniques of path analysis, see: Otis Dudley Duncan, "Path Analysis: Sociological Examples," American Journal of Sociology, LXXII, No. 1 (July 1966), pp. 1-16; David R. Heise, "Problems in Path Analysis and Causal Inference," in Sociological Methodology 1969, ed. by E.F. Borgatta and G.W. Bohnstedt (San Francisco: Jossey-Bass, 1969), pp. 38-73; Fred Kerlinger and Elazar J. Pedhazur, Multiple Regression in Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1973), pp. 305-331; Jae-On Kim and Frank J. Kohout, "Special Topics in General Linear Models," in Statistical Package for the Social Sciences (second edition) ed. by Norman H. Nie et. al. (New York: McGraw-Hill Book Company, 1975), pp. 368-397; Kenneth C. Land, "Principles of Path Analysis," in Borgatta and Bohnstedt, op. cit., pp. 3-37; and Michael K. Miller and C. Shannon Stokes, "Commentary: Path Analysis in Sociological Research," Rural Sociology, XL, No. 2 (Summer 1975), pp. 193-201.

17. The most fertile source of business practices for the index was a lits of 23 practices compiled by Raymond V. Lesikar, Needs of Education for Small Business Based on a 1959 Survey of Louisiana Business, Small Business Management Research Reports (Baton Rouge, Louisiana, College of Business Administration, July, 1961). Although other researchers have utilized lists of business activities, most are smaller, less comprehensive and tend to duplicate the areas of activity identified by Lesikar. Cf. Mayer and Goldstein, The First Two Years; Dun and Bradstreet, Patterns for Success in Managing a Business, Dun and Bradstreet, Inc. Business Library (New York: Thomas Y. Crowell Co., 1967); Elizabeth Y. Deran, "The Successful Shopkeeper: A Study of Retailer Survival in Nine Communities," University of Illinois Bulletin, LX, No. 94 (June 1963); and Edward I. Crawford, ed., A Survey of Selected Management Practices of the Personal Services-Type of Businesses in the Memphis Area (Memphis: The School of Business Administration, Memphis State University, 1961).

18. Inkeles and Smith, op. cit., pp. 348-351.

19. Alex Inkeles, "Making Men Modern: On the Causes and Consequences of Individual Change in Six Developing Countries," American Journal of Sociology, LXXV, No. 2 (September 1969), p. 210.

20. Inkeles and Smith, op. cit., p. 107.

21. Ibid., p. 380.

22. Cf. Johnstone and Rivera, Volunteers for Learning; and Carp, Peterson and Roelfs, "Adult Learning."

23. Inkeles and Smith, op. cit., p. 133.

24. Ibid., p. 139.

25. Gerald W. Ropka, "The Evolution of Residential Patterns of Mexicans, Puerto Ricans and Cubans in Chicago," (unpublished Ph.D. dissertation, Michigan State University, 1973).

26. Sanford Labovitz, "The Assignment of Numbers to Rank Order Categories," American Sociological Review, XXXV, No. 3 (1970), pp. 515-524.

27. This phrase is a quotation from Charles E. Bidwell and John D. Kasarda, "School District Organization and Student Achievement," American Sociological Review, XL, No. 1 (February 1975), p. 63.

28. H.M. Blalock (ed.), Causal Models in the Social Sciences (Chicago: Aldine, 1970).

29. Bidwell and Kasarda, op. cit., pp. 66-67.